

Statistical Analysis Plan

All statistical analyses were conducted to evaluate the effects of sensory integration therapy on functional outcomes in children with Autism Spectrum Disorder across Turkey and Northern Cyprus samples. Data analysis was performed using a significance level of $\alpha = 0.05$, and all tests were two-tailed.

Data preparation and descriptive analysis

Initially, all variables were screened for completeness, distributional properties, and outliers. Descriptive statistics were computed for all study variables. Continuous variables (e.g., PEDI scores) were summarized using means and standard deviations, while categorical variables (e.g., gender, improvement status) were reported using frequencies and percentages.

Baseline comparability

To ensure group equivalence at baseline, demographic and clinical characteristics were compared between intervention and control groups within each country. Independent samples t-tests were used for continuous variables, while chi-square tests were applied for categorical variables.

Primary outcome analysis

The primary outcomes were functional independence scores derived from the Pediatric Evaluation of Disability Inventory (PEDI), including self-care, mobility, and social function domains, as well as total PEDI scores.

Between-group differences at post-intervention were examined using **analysis of covariance (ANCOVA)**, with baseline scores entered as covariates to control for initial differences. This approach was selected to increase statistical power and reduce bias associated with baseline variability.

Effect size estimation

To determine the magnitude of intervention effects, **Cohen's d** was calculated for each outcome variable. Effect sizes were interpreted using conventional thresholds: 0.2 (small), 0.5 (moderate), and 0.8 (large). This allowed for evaluation of clinical relevance beyond statistical significance.

Secondary and categorical analyses

In addition to continuous outcome measures, categorical improvements were analyzed by classifying participants as "clinically improved" or "not improved" based on predefined criteria. Group differences in improvement rates were assessed using chi-square tests.

Cross-country analysis approach

Given the inclusion of two independent cultural contexts (Turkey and Northern Cyprus), analyses were conducted separately for each country to preserve contextual validity. This allowed for examination of consistency in intervention effects across different populations rather than pooling data.

Software

All statistical analyses were conducted using standard statistical software (e.g., SPSS or equivalent). Results were reported with corresponding p-values, confidence intervals where applicable, and effect size estimates.